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Effective pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2006

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	500.00

Complete if Known	
Application Number	09/991,200
Filing Date	November 16, 2001
First Named Inventor	Samuel Cavallaro
Examiner Name	Lillian Vo
Art Unit	2195
Attorney Docket No.	2000P09062US01

METHOD OF PAYMENT (check all that apply)

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FEE CALCULATION (All the fees below are due upon filing or may be subject to a surcharge.)

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims		Fee ($)		Fee Paid ($)
_____	- 20 or HP =	_____	x	_____	=	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims		Fee ($)		Fee Paid ($)
_____	- 3 or HP =	_____	x	_____	=	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof		Fee ($)		Fee Paid ($)
_____	- 100 =	_____	/ 50 =	_____	(round up to a whole number) x	_____	=	_____

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge): Appeal Brief	$500.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 34,721	Telephone 212-971-0416
Name (Print/Type)	Jack Schwartz		Date July 12, 2006

JGW AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Applicant : Samuel Cavallaro

Serial No. : 09/991,200

Filed : November 16, 2001

For : FULLY INTEGRATED CRITICAL CARE WORKSTATION

Examiner : Lilian Vo

Art Unit : 2195

APPEAL BRIEF

May It Please The Honorable Board:

Appellants appeal the Final Rejection, dated February 13, 2006, of Claims 1 - 8 of the above-identified application. The fee of five hundred dollars ($500.00) for filing this Brief and any associated extension fee is to be paid by Credit Card. Enclosed is the credit card authorization form and a single copy of this Brief.

Please charge any additional fee or credit any overpayment to Deposit Account 50-2828.

Appellants do not request an oral hearing.

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Certificate of Mailing under 37 CFR 1.8

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Signature _____ Date: 7/12/06

I. REAL PARTY IN INTEREST

The real party in interest of Application Serial No. 09/991,200 is the Assignee of record:

Draeger Medical Systems, Inc.
16 Electronics Ave.
Danvers, Massachusetts 01923

II. RELATED APPEALS AND INTERFERENCES

There are currently, and have been, no related Appeals or Interferences regarding Application Serial No. 09/991,200.

III. STATUS OF THE CLAIMS

Claims 1-8 are rejected and the rejection of claims 1 - 8 are appealed.

IV. STATUS OF AMENDMENTS

All amendments were entered and are reflected in the claims included in Appendix I.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 provides a critical care workstation (page 4, line13; Fig 2, 100). The workstation includes a display device and a processor coupled to the display device (page 4, lines 13-14; Fig 3, 20 and 10). The processor executes a general purpose operating system, controlling execution of a selected one of a plurality of non-real-time application programs for displaying images representing non-real-time data on the display device. The processor also executes a real-time kernel controlling execution of a process for displaying images representing real-time data on the display device concurrently with the display of the non-real-time data (page 4, lines 15-20; Fig 3 and 20, 10; Fig 4, 206,

212). The general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel (page 9, line 10 to page 10, line 4; Figure 4, 202, 212). The circuitry is responsive to user input for selecting the non-real-time display program from among a plurality of available non-real time display programs (page 4, lines 21-24; Figure 4, 206).

Dependent claim 2 includes the features of independent claim 1, along with the additional feature that the general purpose operating system executes concurrent with and independent from the real-time kernel (page 7, line 30 to page 8, line 3).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-6 and 8 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-3, 6, 9-10, 12-13, 15 and 16-19 of U.S. Patent No. 6,793,625.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (hereafter AAPA), in view of Aiko (Japan Patent No. 404155405) and further in view of Bollella (U.S. Patent No. 6,466962).

VII. ARGUMENT

U.S. Patent No. 6,793,625 ('625) is a different invention from the present claimed invention. Additionally, AAPA when taken alone or in any combination with Aiko and Bollella does not make the present claimed invention unpatentable. Thus, reversal of the Final Rejection (hereinafter termed "rejection") of claims 1-6 and 8 under 35 U.S.C. § 101 and claims 1-8 under 35 U.S.C. § 103(a) is respectfully requested.

Overview of the Cited References

The '625 patent describes a system that separates the operation of the real-time display process and the operating system so the display is not impaired.

AAPA describes a system displaying images representing both real-time data and non-real-time data as having "two different computer systems, one real-time computer system...and another general-purpose system" (Specification page 3, lines 5-16). Additionally, "only the non-real-time data designed into the system can be displayed" (Specification page 4, lines 1-2).

Aiko describes attaining a highly functional "high speed multi-window display by dividing processing into control command processing and display processing and executing respective processing by two CPUs". "[T]he processing of the CPU 2 is controlled by a real time operating system and the processing of the CPU 22 is controlled by a time sharing operating system."

Bollella describes a method of supporting real-time computing within a general purpose operating system, by supporting co-resident operating systems. A multiplexor "precisely allocates (schedule) execution time of a shared device 17 to each operating system 20 or 25" (column 5, line53-55).

Rejection of Claims 1-6 and 8 under 35 U.S.C. § 101

Reversal of the Final Rejection (hereinafter termed "rejection") of claims 1-6 and 8, as provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of

claims 1-3, 6,9-10, 12-13, 15 and 16-19 of U.S. Pat. No. 6,793,625 ('625) is respectfully requested because the rejection makes crucial errors in interpreting the cited reference. Applicant respectfully submits that the '625 patent is a different invention from the present claimed invention and that each invention is individually entitled to patent protection.

The present claimed invention is directed towards the use of a **single** processor coupled to a **single** display controller operating under a **single** operating system. The present claimed invention recites "a real-time kernel, controlling execution of a process for displaying images representing real-time data on the display device concurrently with the display of the non-real-time data, wherein the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using **a common operating system kernel**." The present claimed invention allows a single graphics display controller to display both real-time and non-real-time data by managing and prioritizing the allocation of resources to the real-time data processing and display. However, unlike the present claimed invention, the '625 patent is directed towards the execution of the real-time display process **being independent** of the execution of the operating system ('625, column 2, lines 61-64). The '625 patent separates the operation of the real-time display process and the operating system so the display is not impaired, while the present invention uses a **single** processor. In fact, Applicant respectfully submits that due to the differing and conflicting objectives of '625 and the present claimed invention, '625 is not concerned with the objectives of the present claimed invention and teaches away from the present claimed invention. The '625 patent is concerned with the display of the non-real-time data interrupting the display of the real-time data, and the system prevents this interruption by executing the real-time display process independently from the execution of the operating system. The present claimed invention, on the other hand, prioritizes and manages the allocation of resources through the use of a **single** processor.

Thus, it is respectfully submitted that the '625 patent is not equivalent to the present claimed invention and that the rejection indicating these patents claim the same invention is improper. Therefore, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claims 1-8 under 35 USC § 103(a)

Claims 1-8 are rejected under 35 USC 103(a) as being unpatentable over applicant's admitted prior art (hereafter AAPA), in view of Aiko (Japan Patent No. 404155405), and further in view of Bollella (U.S. Patent No. 6,466,962). These claims are considered patentable for the following reasons.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596, 1598 (Fed.Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (CCPA 1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion, or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed.Cir. 1988), *cert. denied*, 488 U.S. 825 (1988); *Ashland Oil Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 28, 293, 227 USPQ 657, 664 (Fed.Cir. 1985), *cert. denied,* 475 U.S. 1017 (1986); *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed.Cir. 1984). These showings by the Examiner are an

essential part of complying with the burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed.Cir. 1992).

CLAIMS 1 and 3 - 8

Independent claim 1 recites a system "wherein the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel." These features are not shown (or suggested) in AAPA, Aiko or Bollella, alone or in any combination.

As admitted on pages 3-4 of the office action, "AAPA did not specifically teach that wherein the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel; and circuitry, responsive to user input for selecting the non-real-time display program from among a plurality of available non-real-time display programs." In fact, AAPA specifically teaches away from this as the objective is to prevent the interruption of the real-time display by the non-real-time data by separating the operation of the real-time display process and the operating system. The present claimed invention, on the other hand, prioritizes and manages the allocation of resources through the use of a **single** processor. Applicant respectfully submits that these features are also neither shown nor suggested by Aiko and Bollella, alone or in combination.

In Aiko, the purpose of the invention is "to attain highly functional, high speed multi-window display by dividing processing into control command processing and display processing and executing respective processing by **two** CPUs." Aiko further states "the processing of the CPU 2 is controlled by a real time operating system and the processing of the CPU 22 is controlled by a time sharing operating system." This is wholly unlike the

present claimed invention, which recites "the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a **common operating system kernel**." Unlike Aiko, which uses two separate operating systems, one for each CPU 2 and 22, the present claimed invention uses a **single** processor coupled to a **single** display controller operating under a **single** operating system. The system of Aiko, similarly to AAPA, teaches away from the objectives of the present claimed invention.

Bollella describes a method of supporting real-time computing within a general purpose operating system, by supporting **co-resident** operating systems. A multiplexor "precisely allocates (schedule) execution time of a shared device 17 to **each** operating system 20 or 25" (column 5, line53-55). Bollella is essentially a scheduler that makes sure there are enough resources to "ensure that the real-time kernel 25 executes without interference from the general purpose operating system 20" (column 6, lines 11-13). This is unlike the present claimed invention which uses a **single** processor coupled to a **single** display controller operating under a **single** operating system kernel. Bollella has no need for a single operating system kernel as the two co-resident operating systems are supported by multiplexing and partitioning. Therefore, Bollella (similarly to AAPA and Aiko) neither discloses nor suggests "the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel," as recited in the present claimed invention. Additionally, Bollella (similarly to AAPA and Aiko) neither discloses nor suggests "a general purpose operating system, controlling execution of a selected one of a plurality of non-real-time application programs for displaying images representing non-real-time data on the display device; and a real-time kernel, controlling execution of a process for displaying images representing real-time data on the display device concurrently with

the display of the non-real-time data" as recited in the present claimed invention. Nor does Bollella (similarly to AAPA and Aiko) disclose or suggest "circuitry, responsive to user input, for selecting the non-real-time display program from among a plurality of available non-real-time display programs" as recited in the present claimed invention.

It is also respectfully submitted that while AAPA, Aiko and Bollella relate to real-time data, there is no reason or motivation to combine AAPA, Aiko and Bollella, in any combination. Additionally, AAPA, Aiko and Bollella describe incompatible systems and thus cannot be combined to describe an operable system recognizing the problem solved by the present invention. Each of AAPA, Aiko and Bollella include multiple processors and separate processing. Thus, even if they were combined, the resulting system would have multiple processors and separate processing, which is wholly unlike the **single** processor coupled to a **single** display controller operating under a **single** operating system, as claimed in the present invention. Further, AAPA is directed towards critical care workstations displaying images representing real-time and non-real-time data wherein the real-time data is physiological data, while Aiko is concerned with dividing processing between two CPUs to obtain high speed multi-widow displays, and Bollella is directed towards scheduling co-resident operating systems. AAPA, Aiko and Bollella are involved with completely different uses of real-time data. Additionally, none of these references are concerned with a general purpose operating system and a real-time kernel that are arranged to execute as processes on a processor using a common operating system kernel as in the present claimed invention. Thus, in view of the above arguments, Applicant respectfully submits that AAPA, Aiko and Bollella, alone or in any combination, neither disclose nor suggest "a real-time kernel, controlling execution of a process for displaying mages representing real-time data on the display device concurrently with the display of the non-real-time data, wherein the general purpose operating system and the real-time kernel are both arranged to

execute as processes on the processor using a common operating system kernel," as recited in the present claimed invention. Thus, there is no recognition of a common objective in any of these references nor is there any recognition of the objectives and problems solved by the present claimed invention. Therefore, it is neither obvious nor proper to combine the systems of AAPA, Aiko and Bollella.

However, even if these references were combined, such a combination would use multiple processors to produce a multi-window display for a critical care workstation that allocates resources via co-resident operating systems. This combination still neither discloses nor suggests a system in which "the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel" as in the present claimed invention. This combination also neither discloses nor suggests "circuitry, responsive to user input, for selecting the non-real-time display program from among a plurality of available non-real-time display programs" as in the present claimed invention.

As claims 3-8 are dependent on claim 1, these claims are also allowable for the same reasons discussed above. In view of the above remarks, and the dependence of claims 3-8 on claim 1, it is respectfully submitted that AAPA and Aiko and Bollella, when taken alone or in any combination, provide no 35 USC 112 compliant enabling disclosure showing the above discussed features. It is thus further respectfully submitted that this rejection is satisfied and should be withdrawn.

CLAIM 2

Dependent claim 2 is considered to be patentable based on its dependence on claim 1. Therefore, the arguments presented above with respect to claim 1 also apply to claim 2.

Claim 2 is also considered to be patentable because AAPA (with Aiko and Bollella) neither discloses nor suggests "the general purpose operating system executes concurrent with and independent from the real-time kernel" as recited in the present claimed invention. Rather, page 3, lines 16-23 of the specification describing the AAPA states that in one existing system, the "doctor may see **either** the real-time data, **or** the non-real-time data, but not both simultaneously" through the use of a switch "for coupling one of the image representative signals to the display device at a time." This teaching is in **direct conflict** with the claimed system function in which "the general purpose operating system **executes concurrent** with and independent from the real-time kernel."

Applicant further respectfully submits that as Aiko describes dividing the processing into control command processing and display processing and executing respective processing by two CPUs and Bollella describes scheduling co-resident operating systems, these references teach away from the concurrent operation claimed in the present invention. Thus, withdrawal of the Rejection of Claim 2 under 35 U.S.C. 103(a) is respectfully requested.

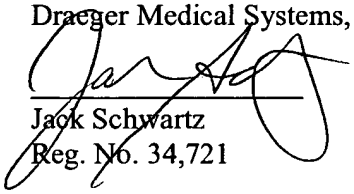
VIII CONCLUSION

Neither AAPA, nor Aiko, nor Bollella, alone or in any combination disclose or suggest "a processor, coupled to the display device, executing a general purpose operating system, controlling execution of a selected one of a plurality of non-real-time application programs for displaying images representing non-real-time data on the display device" as recited in the present claimed invention. Nor do AAPA, Aiko and Bollella, alone or in any combination disclose or suggest "a processor...executing...a real-time kernel, controlling execution of a process for displaying images representing real-time data on the display device concurrently with the display of the non-real-time data" as recited in the present claimed invention. Additionally, AAPA, Aiko and Bollella, alone or in any combination,

neither disclose nor suggest "wherein the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel" as recited in the present claimed invention. Further, AAPA, Aiko and Bollella, alone or in any combination neither disclose nor suggest "circuitry, responsive to user input, for selecting the non-real-time display program from among a plurality of available non-real-time display programs" as recited in the present claimed invention.

Accordingly it is respectfully submitted that the rejection of Claims 1– 8 should be reversed.

Respectfully submitted,
Draeger Medical Systems, Inc.



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APPENDIX I - APPEALED CLAIMS

1. (Previously Presented) A critical care workstation, comprising:

a display device;

a processor, coupled to the display device, executing:

a general purpose operating system, controlling execution of a selected one of a plurality of non-real-time application programs for displaying images representing non-real-time data on the display device; and

a real-time kernel, controlling execution of a process for displaying images representing real-time data on the display device concurrently with the display of the non-real-time data,

wherein the general purpose operating system and the real-time kernel are both arranged to execute as processes on the processor using a common operating system kernel; and

circuitry, responsive to user input, for selecting the non-real-time display program from among a plurality of available non-real-time display programs.

2. (Previously Presented) The workstation of claim 1 wherein the general purpose operating system executes concurrent with and independent from the real-time kernel.

3. (Previously Presented) The workstation of claim 1 further comprising a storage device, coupled to the processor, wherein the plurality of non-real-time application programs are stored on the storage device and the general purpose operating system selects one of the stored plurality of non-real-time application programs in response to the user input.

4. (Original) The workstation of claim 3 wherein the storage device stores code and data representing the non-real-time application program and the processor retrieves the stored code and data representing the selected non-real-time application and controls the execution of the retrieved code and data.

5. (Original) The workstation of claim 1 further comprising a connection to a network comprising a server capable of storing the plurality of non-real-time application programs and the general purpose operating system selects one of the stored plurality of non-real-time application programs in response to the user input.

6. (Original) The workstation of claim 5 wherein the server stores code and data representing the non-real-time application program and the processor retrieves the stored code and data representing the selected non-real-time application and controls the execution of the retrieved code and data.

7. (Previously Presented) The workstation of claim 1, wherein the real-time data is physiological data.

8. (Previously Presented) The workstation of claim 1, wherein a displayed image concurrently displays both non-real time and real time data.

APPENDIX II - EVIDENCE

Applicant does not rely on any additional evidence other than the arguments submitted hereinabove.

APPENDIX III - RELATED PROCEEDINGS

Applicant respectfully submits that there are no proceedings related to this appeal in which any decisions were rendered.

APPENDIX IV - TABLE OF CASES

1. *In re Howard*, 394 F. 2d 869, 157 USPQ 615, 616 (CCPA 1968)
2. 29 AM. Jur 2D Evidence S. 33 (1994)
3. *In re Ahlert*, 424 F. 2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970)
4. *In re Eynde*, 480 F. 2d 1364, 1370; 178 USPQ 470, 474 (CCPA 1973)

APPENDIX V - LIST OF REFERENCES

U.S. Pat. No.	Issued Date	102(e) Date	Inventors
6,793,625	September 21, 2004		Cavallaro et al.
6,466962	October 15, 2002		Bollella

Foreign Patent Documents

Document No.	Date	Country	Name
JP404155405	05-1992	Japan	Aiko

Non-Patent Documents

Applicant's Admitted Prior Art.

TABLE OF CONTENTS

APPENDICES